

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A bone implant (10) suitable for implantation in an implantation direction parallel to an implant axis (I) in a cavity surrounded by a cavity wall (K) of bone tissue (3), wherein an implant portion to be implanted comprises surface ranges (16) of a material, which is liquefiable (M) by mechanical oscillation, or such surface ranges (16) formed by pressing the liquefiable material out of a hollow space (26) in the implant through openings (27), and wherein the implant portion to be implanted further comprises cutting edges (14), said cutting edges being located outside the surface ranges (16) provided or to be created, said cutting edges do not extend in a common plane with the implant axis (I), and wherein the cutting edges are facing toward a distal end region of the implant and extend at least partly around the circumference of the implant.

2. (Previously Presented) The bone implant according to claim 1, wherein the cutting edges (14) comprise a wedge angle (β) of less than 90°.

3. (Previously Presented) The bone implant according to claim 1, wherein the cutting edges (14) are designed to be salient.

4. (Previously Presented) The bone implant according to claim 1, wherein the cutting edges (14) are undercut to form a chip space (23).

5. (Previously Presented) The bone implant according to claim 1, wherein the liquefiable material (M) is situated in depressions (40) and the surface ranges (16) of the liquefiable material (M) protrude from surface areas (17) surrounding the depressions (40).

6. (Previously Presented) The bone implant according to claim 1, wherein the openings (27) lead into the depressions (40).

7. (Previously Presented) The bone implant according to claim 5, wherein the depressions (40) are grooves extending axially or spirally across the implant region to be implanted.

8. (Previously Presented) The bone implant according to claim 1, wherein osseointegrative surface areas (17) are situated between the surface ranges (16) of the liquefiable material.

9. (Previously Presented) The bone implant according to claim 1, wherein the implant portion to be implanted further comprises axially extending furrowing or tapping structures (21).

10. (Previously Presented) The bone implant according to claim 1, wherein the cutting edges (14) extend along parts of the circumference of the implant and form lower edges of scale-like structures.

11. (Previously Presented) The bone implant according to claim 1, wherein a proximal end region of the implant comprises a collar (31) with a lower edge fashioned as a cutting edge.

12. (Previously Presented) The bone implant according to claim 11, wherein the proximal end region comprises a ring (32) of a thermoplastic material.

13. (Previously Presented) The bone implant according to claim 1, wherein the implant portion to be implanted tapers toward a distal end region.

14. (Previously Presented) The bone implant according to claim 13, further comprising steps (13) extending wholly or partly around the implant and comprising at least partially edges fashioned as cutting edges (14).

15. (Previously Presented) The bone implant according to claim 14, wherein a part of the steps (13) have blunt edges with a wedge angle (β) of 90° or more.

16. (Previously Presented) The bone implant according to claim 1, wherein the implant portion to be implanted has an essentially cylindrical form and comprises

cutting edges (14) protruding from the cylindrical form and being distanced from the implant axis (I) by distances which decrease in the direction of implantation.

17. (Previously Presented) The bone implant according to claim 16, wherein the cutting edges (14) protruding from the cylindrical form extend along a part of a circumference of the implant and are aligned in series in the axial direction.

18. (Previously Presented) The bone implant according to claim 17, further comprising at least two series of cutting edges (14, 14', 14'') facing each other, and wherein the surface ranges (16) of the liquefiable material (M) or outlets of the openings (27) are situated between the series on the implant's circumference.

19. (Previously Presented) The bone implant according to claim 1, further comprising a hollow space (26) and a piston (42), said piston being insertable into a proximal opening of the hollow space (26).

20. (Previously Presented) The bone implant according to claim 19, wherein, on a proximal end (43) of the piston (42) and/or round the proximal opening of the hollow space (26), means for an insulating connection between piston (42) and implant are provided.

21. (Previously Presented) The bone implant according to claim 1, wherein said implant carries an intermediate element (52) on a proximal end region.

22. (Previously Presented) The bone implant according to claim 21, wherein the intermediate element (52) is connected to the implant by a loose fit connection and/or is equipped to be joined to a sonotrode (53) via a loose fit connection.

23. (Previously Presented) The bone implant according to claim 21, wherein said implant is a dental implant (10).

24. (Previously Presented) The bone implant according to claim 23, further comprising, in addition to a root portion (11), a crown portion (12), an abutment (30) or means (20) for fastening an abutment, a crown (19), a bridge or a set of dentures.

25. (Previously Presented) The bone implant according to claim 1, wherein the bone implant is a shaft of a joint prosthesis.

26. (Previously Presented) The bone implant according to claim 1, wherein the implant is adapted to bridge a bone defect.

27. – 45. (Cancelled)